

incorporate therein the subject matter respectively recited in claims 23 and  
20 48. The Examiner has indicated that claims 23 and 48 would be allowable if  
rewritten in independent form. The applicants respectfully submit that, in  
view of the Examiner's indication that claims 23 and 48 would be patentable  
if rewritten in independent form, claims 18-22, 24, 43-47, and 49 as now  
amended are patentable.

25 The applicants have added new apparatus claims 59-64 and new  
method claims 65-70. Independent claims 59 and 65 respectively recite  
subject matter similar to that originally recited in claims 24 and 49. With  
respect to claims 24 and 49, the Examiner stated that Nishiguchi discloses a  
digital signal encoding apparatus and method comprising deriving plural  
30 coefficients from the input digital signal, and adaptive bit allocating  
comprising means and steps for dividing the coefficients into plurality of  
bands, calculating the allowable noise level for each of the bands, comparing  
in each band the minimum audible level and selecting the minimum audible  
level as an allowable noise level, citing Nishiguchi's abstract and Figures 4  
35 and 11; and that Nishiguchi discloses dividing the coefficients into critical  
bands, comparing the allowable noise level corresponding to the critical  
bands, and selecting the allowable noise level corresponding to the critical  
band, citing Nishiguchi's Figures 4 and 11, and cols. 5-6.

New claim 65 first recites steps of dividing the spectral coefficients  
40 by frequency into bands including a band corresponding to a critical band,  
and subdividing the spectral coefficients in the band by frequency into sub  
bands. The applicants note that Nishiguchi discloses dividing the spectral  
coefficients into critical bands, but respectfully submit that Nishiguchi fails  
to disclose dividing the spectral coefficients in a critical band into sub bands.

45 Claim 65 next recites a step of calculating an allowable noise level  
for each of the bands. The applicants note that Nishiguchi discloses  
calculating an allowable noise level for each of his critical bands, but  
respectfully submit that Nishiguchi fails to teach calculating an allowable

noise level for fewer than the total number of bands and sub bands into  
50 which the spectral coefficients are divided. The applicants further  
respectfully submit that, since Nishiguchi teaches calculating the allowable  
noise level for the whole of each critical band, he teaches away from  
calculating an allowable noise level for a sub band obtained by dividing a  
critical band in frequency.

55 Claim 65 next recites a step of supplying a minimum audible level for  
each of the bands except the band, and for each of the sub bands in the  
band. The applicants note that Nishiguchi discloses supplying an minimum  
audible level for each of the critical bands, but respectfully submit that  
Nishiguchi fails to teach supplying more than one minimum audible level per  
60 critical band, as are supplied when a minimum audible level is supplied for  
each of the sub bands obtained by dividing a critical band in frequency. The  
applicants further respectfully submit that, since Nishiguchi teaches  
supplying a minimum audible level for the whole of each critical band, he  
teaches away from supplying a minimum audible level for a sub band  
65 obtained by dividing a critical band in frequency.

Claim 65 next recites a step of determining, in each of the bands  
except the band, when the minimum audible level supplied in the supplying  
step is greater than the allowable noise level calculated in the allowable noise  
level calculating step, and determining, in the band, when the minimum  
70 audible level supplied in the supplying step for only the lowest-frequency sub  
band is greater than the allowable noise level calculated for the band in the  
allowable noise level calculating step. The applicants respectfully note that  
Nishiguchi discloses determining when the minimum audible level for the  
whole of each critical band is greater than the allowable noise level  
75 calculated for whole of the critical band. In other words, Nishiguchi simply  
teaches that the minimum audible level for the whole of the critical band is  
compared with the allowable noise level for the whole of the critical band.

Accordingly, the applicants respectfully submit that Nishiguchi fails to teach a step of determining when the minimum audible level for only the lowest-frequency sub band obtained by dividing the critical band in frequency is greater than the allowable noise level calculated for the whole of the critical band. The applicants further submit that, since Nishiguchi teaches determining when the minimum audible level for the whole of a critical band is greater than the allowable noise level for the whole of the critical band, he teaches away from a step of determining when the minimum audible level for only the lowest-frequency sub band obtained by dividing the critical band in frequency is greater than the allowable noise level for the whole of the critical band.

Claim 65 next recites a step of substituting, in each one of the bands in which determining step determines that the minimum audible level is greater than the allowable noise level, the minimum audible level for the allowable noise level as the allowable noise level for the one of the bands, and substituting, in each one of the sub bands in the band when the determining step determines that the minimum audible level for the lowest-frequency sub band is greater than the allowable noise level for the band, the minimum audible level supplied for the one of the sub bands for the allowable noise level calculated for the band as the allowable noise level for the one of the sub bands. The applicants note that Nishiguchi discloses substituting the minimum audible level for the allowable noise level in each critical band in which the minimum audible level is greater than the allowable noise level. In other words, Nishiguchi simply teaches that the minimum audible level for the whole of the critical band is substituted for the allowable noise level for the whole of the critical band when the minimum audible level for the whole of the critical band is greater than the allowable noise level for the whole of the critical band.

The applicants therefore respectfully submit that Nishiguchi fails to teach substituting, in each sub band obtained by dividing the critical band in

frequency, the minimum allowable level *for the sub band* for the allowable noise level *for the whole of the critical band* as the allowable noise level for the sub band when the minimum audible level for the lowest-frequency sub band is greater than the allowable noise level for the whole of the critical band. The applicants further submit that, since Nishiguchi teaches that, when the minimum audible level for the whole of a critical band is greater than the allowable noise level for the whole of the critical band, the minimum audible level for the whole of the critical band is substituted for the allowable noise level as the allowable noise level for the whole of the critical band, he teaches away from a step of substituting, in each sub band, the allowable noise level for the sub band for the allowable noise level for the whole of the critical band as the allowable noise level for the sub band.

The applicants wish to respectfully point out that the version of claims 24 and 49 that were rejected in the present official action did not correctly claim the feature of their invention, namely, substituting in each sub band, the allowable noise level for the sub band for the allowable noise level for the whole of the critical band as the allowable noise level for the sub band when the minimum audible level for the lowest-frequency sub band is greater than the allowable noise level for the band. The applicants have amended claims 24 and 49 in this amendment to remedy this defect.

Finally, claim 65 recites a step of adaptively allocating a number of quantizing bits among the bands and the sub bands for quantizing the spectral coefficients therein, the quantizing bits being adaptively allocated to each of the bands and the sub bands in response to the allowable noise level for each of the bands and sub bands. The applicants note that Nishiguchi teaches allocating quantizing bits among the critical bands, but respectfully submit that Nishiguchi fails to teach that quantizing bits are also allocated to sub bands obtained by dividing a critical band in frequency.

Accordingly, the applicants respectfully submit that, since Nishiguchi fails to disclose the subject matter recited in new claim 65, and since

140 Nishiguchi teaches away from much of the subject matter in new claim 65,  
new claim 65 is patentable. The applicants further submit that claims 66-70,  
which depend on claim 65 are also patentable. Moreover, the applicants  
respectfully submit that claim 59 is patentable for reasons similar to those set  
forth above with respect to claim 65, and that claims 60-64, which depend  
on claim 59, are also patentable.

145 The applicants respectfully request reconsideration of the rejected  
claims. The applicants believe that the application as now amended is in  
condition for allowance, and respectfully request such favorable action. If  
any matters remain outstanding in the application, the Examiner is  
respectfully invited to telephone the applicant's attorney at (415) 433 4150 so  
that these matters may be resolved.

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Respectfully submitted,

LIMBACH &amp; LIMBACH

By: Ian Hardcastle  
Reg. No. 34,075

Attorneys for Applicant(s)

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